Strongylura cylindrica, G. O. Sars (101, 105).—Norway.

Anarthura simplex, G. O. Sars (101, 105).—Norway, West France (*A. Dollfus*, 26).

Mesotanais dubius, A. Dollfus (25).—Azores.

Neotanais Edwardsi, A. Dollfus (27).—Bay of Biscay.

Tanaella unguicillata, Nor. & Stebb. (86).—Lat. 49° 7′ N., long. 10° 57′ W., which is a little south of the British Area as defined by me.

XLVII.—*Note on the Harvest-Mice of the Palæarctic Region.*

By G. E. H. Barrett-Hamilton.

Very little is known of the variations in colour, size, or proportions of the harvest-mice of different parts of the Palæarctic Region. It could, however, hardly be doubted that some such variations exist in an animal which is distributed over so wide an extent of country, occurring as it does from Great Britain to the coast of China. Accordingly we find that specimens in the British Museum collection from North-western Fokien, Western Hungary, and England are readily distinguishable from each other, and it is plain that each of these series represents a distinct local race or subspecies.

As regards nomenclature, the harvest-mouse was first described by Pallas, who, in 1779, gave to it the name of *Mus minutus*, but did not localize his type. As, however, he alludes to Siberian specimens as differing from those of which he writes under the heading of *M. minutus*, it seems clear that this name must be used for the harvest-mice of Continental Europe, and that all other names given to European harvest-mice (except, as shown below, that of *M. messorius* for the harvest-mouse of Great Britain) must rank as synonyms of it until it can be shown that more than one form of harvest-mouse exists in Continental Europe.

The name *messorius* of Kerr must stand for the British form, while *M. pygmæus* of Milne-Edwards, from Eastern Asia, is another subspecies. Lastly, I propose the name of *ussuricus* for the Northern Siberian form, of which the British Museum possesses a specimen from Ussuri in the Coast Province of Eastern Siberia (no. 91. 6. 29. 1).

The following are the forms which may at present be distinguished. They may be conveniently regarded as subspecies of *Mus minutus*.

1. *Mus minutus messorius* *.

Mus messorius, Kerr, Animal Kingdom, p. 230 (1792).

Type locality. Hampshire, England.

Summer pelage orange-red above, brightest on the rump and lighter on the sides, and always marked off by a clear line of demarcation from the pure white of the under surface. Winter pelage not so bright as that of summer. Colour of underside and line of demarcation as in summer.

The following are the maximum, mean, and minimum dimensions of fifteen males and nine females, all of which were measured in the flesh, and which form part either of my own or of the British Museum collection :—

		Head and body. mm.	Tail. mm.	Hind foot. mm.	Ear. mm.
15 males	Maximum..	65	67	15	9
	Mean.....	59·1	57·1	14·2	8·1
	Minimum ..	56	50	12	7
9 females	Maximum..	60	57	14·5	9·5
	Mean.....	56·8	53	13·9	8·3
	Minimum..	51	49	13	7

It will be noted that the length of the tail is usually, but by no means always, less than that of the head and body.

Of the young, it is stated by Mr. J. E. Harting, from observations on individuals born and kept in captivity ('Zoologist,' Nov. 1895, pp. 420, 421), "that even when almost as large as the old ones they were not nearly so red. Indeed, until the beginning of December they resembled a house-mouse in colour. About that time, however, they began to change visibly, the hinder quarters from the root of the tail upwards becoming rufous before any other portion of the body." A family of young harvest-mice set up in the Tring Museum are, however, as bright as their parents in the same case.

French specimens seem to agree in colour with those of England, judging by the descriptions and figures of French

* This form, though not the typical one, is here put first because the information at my disposal relating to it is fuller than in the case of *M. minutus*, so that instead of comparing *M. messorius* with *M. minutus*, as I should strictly do, I am forced to reverse the comparison.

As shown by Mr. Oldfield Thomas (Ann. & Mag. Nat. Hist. (5) iv. p. 347, 1879), Kerr's use of the name *messorius* for the harvest-mouse of England clearly antedates that of Shaw (Gen. Zool. vol. ii. pt. 1, p. 62, 1801), to whom the first use of the name is generally attributed in books.

writers (see Trouessart, 'Les Petits Mammifères de la France,' with a coloured plate of this species).

2. *Mus minutus typicus.*

Mus minutus, Pallas, Nov. Spec. pp. 96 & 345 (1779).

This name antedates all other names applied to European harvest-mice, and of which I have given a list at the end of this paper. They are therefore synonyms of it as applied to the whole of Europe. Should it be found, however, that more than one subspecies of harvest-mouse exists in Europe, this name must be restricted to that of the North, while the other and later names must be applied to the various other species according to the localities in which they occur.

Six examples from Western Hungary, collected in August, 1893, are singularly unlike British specimens, as they entirely lack the orange-red of the latter except on the rump, and are instead of a light sepia-brown on the upper surface, lighter on the sides, and shading to orange-red on the rump. The under surface is, like that of the British specimens, pure white, with a clearly marked line of demarcation separating the colours of the upper and lower surfaces.

The proportionate lengths of the feet and tail, so far as can be ascertained from the dried skins, are similar to those of *M. messorius*.

A specimen from Holstein (British Museum Collection, no. 47. 4. 5. 2) appears to be intermediate in character between those of Hungary and England, the whole of the upper surface being rusty red; but the skin is an old one, badly preserved and untrustworthy for comparison.

3. *Mus minutus pygmæus.*

Mus pygmæus, Milne-Edwards, Recherches Mamm. p. 291 & pl. xliii. (1874).

Three specimens of this form from North-west Fokien have recently been added to the British Museum collection through the kindness of the collector, Mr. J. de La Touche. In the colour of the upperside these mice cannot be distinguished from the Hungarian specimens, but the tail is very much longer, the underside dirty white, and the line of demarcation between the colours of the upper and under sides not very clearly marked. These specimens have only a trace of the red rump of *M. minutus*. They were collected at Kuatun, N.W. Fokien, in April 1898.

The dimensions, given in inches on two of the labels, and converted into millimetres, are as follows:—

	Head and body.	Tail.
	mm.	mm.
♂, 12th April, 1898	55	76
(Unsexed), 27th April, 1898	58	61

showing that the length of the tail exceeds that of the body.

The dimensions of an adult female, one of Père David's specimens from Tibet, and now in the Paris Museum, were found by Mr. Oldfield Thomas to be: head and body 56·5, tail 57, hind foot 14, ear 7·2.

The subspecies was originally described by Milne-Edwards from specimens collected by Père David in the Province of Sé-tchuan *, in Eastern Tibet.

4. *Mus minutus ussuricus*, subsp. n.

The type specimen was collected by Messrs. Dörries at Ussuri, in the Coast Province of Eastern Siberia, and is no. 91. 6. 29. 1 of the British Museum collection. In its coloration it is far darker on the upper surface than *Mus minutus*, and the red colour on the rump is far duller; as in *minutus*, the dark colour of the upper surface becomes lighter on the flanks, but, unlike *minutus*, there is no distinct line of demarcation and the white colour of the underside, instead of being pure, is washed with dirty yellow. The specimen is large and seems to about equal in size a house-mouse, *Mus musculus*.

The dimensions of the dried skin are as follows:—

	mm.
Head and body	78
Tail	62
Hind foot.....	12

The cranial and dental characters are not distinctive from those of other subspecies.

The description of *Mus minutus flavus*, as given by Kerr ('Animal Kingdom,' p. 232, 1792), prevents me from identifying my new mouse with this form, which, according to Kerr, "is elegantly yellowish coloured on the upper parts, and pure white on the under parts of the body." He adds that it "Inhabits Siberia.—This variety is exceedingly beautiful."

The subspecific identity of the mice to which the following names were applied must for the present remain uncertain,

* At page 291 the province is called Sé-tchuan; under the plate it is called Moupin.

until such time as specimens from the districts to which they refer are available. There can be no doubt that they all have reference to harvest-mice.

Mus campestris, Desmarest, Mamm., Suppl. p. 543 (1822) [giving a name to the "Mulot nain" of Geoffroy & Cuvier].

"Mulot nain," Geoffr. & Cuv. Mamm. xxxiii^{e} & plate (Oct. 1821).
"Rat des Moissons," *op. cit.* lxiv^{e} (Nov. 1830).
Mus pumilus, Geoffr. & Cuv. *op. cit.* Tab. Gén. et Méth. (1842).

France.

Mus minutus flavus, Kerr, Animal Kingd. p. 232 (1792).

"Inhabits Siberia" (see above).

Mus soricinus, Hermann, Obs. Zool. i. p. 57 (1804).

Neighbourhood of Strasburg. Is figured by Shaw (Gen. Zool. iv. 1, p. 133) with a very shrew-like appearance.

Mus pendulinus, Hermann, *op. cit.* p. 61 (1804).

Germany.

Mus parvulus, Hermann, *op. cit.* p. 62 (1804).

Strasburg, Germany.

Mus pratensis, Ockshay, Nov. Acta Leopold.-Carol., xv. 2, p. 243 (1831).

Western Hungary. The figure and description are those of a harvest-mouse. This name antedates *Mus arundinaceus* of Petenyi (*vide infrà*).

Micromys agilis, Dehne, Hoflössnitz, p. 16 (1841).

Dresden, Germany.

Mus meridionalis, Costa, Ann. dell' Accad. degl. Asp. Nat. Nap. vol. ii. p. 33 (1844).

Naples, Italy. The description has been shown by Dr. Forsyth Major (Atti Soc. Tosc. Sci. Nat. vol. iii. p. 129, 1884) to be based on a specimen of *Mus minutus*.

Mus arundinaceus (Petenyi), Chyzer, Rel. Pet. Termes-Fuzetek N., p. 91 (1881).

Buda-Pesth and Western Hungary. The type has been lost, but Mr. Oldfield Thomas has been informed, in a letter from Dr. Julius Madarász, that it was a harvest-mouse, a conclusion to which I had already come in the 'Zoologist' for May 1896, p 181.